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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,020	09/15/2003	Barry Bronson	10008364-2	2739

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EXAMINER

PHAM, HAI CHI

ART UNIT	PAPER NUMBER
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2861

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/664,020

Applicant(s)

BRONSON, BARRY

Examiner

Hai C Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-39 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 22-30, 33, 35, 36, 38 and 39 is/are rejected.
- 7) ☒ Claim(s) 31, 32, 34 and 37 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/15/03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 22, 25-27, 33, 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heemskerk et al. (U.S. 6,310,838) in view of Naito (U.S. 5,869,420).

Heemskerk et al. discloses a record carrier comprising a thermally sensitive layer (the recording layer is constituted by a phase-change material, which acquires a change of state upon heating (col. 4, lines 41-48), one or more alignment marks pre-printed on the disk storage medium (address marks or pre-pits pre-recorded on the disk during manufacture to enable positioning of the read/write head) (col. 4, lines 20-23), and pre-recorded data containing embedded disk information about the disk (pre-recorded information indicating the laser power needed for writing data) (col. 8, lines 2-9).

Heemskerk fails to teach the color changing of the thermally sensitive layer when heated (claim 22) in order to form a label composed of different colors.

However, it is well known in the art that the thermally sensitive layer having a phase-change material that undergoes a change of state under heat may include dye such that the material also changes colors when heated on the basis of the reversible

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changes between the crystalline state and amorphous state as evidenced by Naito at col. 8, line 42 to col. 9, line 8.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate dye component in the thermally sensitive layer of Heemskerk et al. optical disk because Naito teaches this to be known in the art that the recording layer can change color under heat on the basis the reversible changes between the crystalline state and amorphous state.

Heemskerk et al. further teaches:

- The one or more marks or address marks being pre-printed on the thermally sensitive layer,
- The one or more alignment marks being used to properly aligned
- The embedded disk information including thermal media printing characteristics (information for the required laser power for writing data onto the recording layer),
- The thermally sensitive layer being erasable (re-writable disk),
- The thermally layer being configured to allow a thermal writing head to write one or more spots to the thermally sensitive layer (the read write head 62 comprising a radiation source such as a laser diode whose radiation beam heats the thermally sensitive layer to induce the state change of the layer).

3. Claims 22-23 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (U.S. 6,317,392) in view of Sakamoto et al. (U.S. 6,596,358).

Lee et al. discloses an optical disk with a non-volatile memory ROM for storing pre-recorded information about the disk and pre-recorded address index marks indicative of the position of the track address region.

Lee et al. fails to teach the provision of the thermally sensitive layer that changes color when heated, the layer being attached by an adhesive and being removable.

Regardless, it is old and well known in the art to provide a label specific to the optical disk such that it can be differentiated from other optical disks. Sakamoto et al. discloses a thermally sensitive label medium that changes color when heated, the label having an adhesive layer.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a thermally sensitive adhesive label as taught by Sakamoto et al. in the modified device of Lee et al. in order to differentiate one optical disk from another.

4. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. in view of Sakamoto et al., as applied to claim 22 above, and further in view of Aihara et al. (JP 2000-173238).

Lee et al., as modified, discloses all the basic limitations of the claimed invention except for the alignment marks being used to properly align a label to a predetermined orientation.

Aihara et al., an acknowledged prior art, discloses an optical disk having an alignment mark (3a) such that the heat sensitive label (3) is brought to the adequate position (see abstract).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the pre-recorded mark on the optical disk to position the label at a desired orientation as taught by Aihara et al. in the modified device of Lee et al. The motivation for doing so would have been to allow easy manipulation of the image previously written on the label such as erasing the previously recorded image or adding new image to the label without overlapping the old one.

5. Claims 29-30 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heemskerk et al. in view of Naito, as applied to claims 22 and 27 above, and further in view of Hirotsune et al. (U.S. 6,532,034).

Heemskerk et al., as modified, discloses all the basic limitations of the claimed invention except for the arrangement pattern of the label being a series of concentric rings of different colors or radial line patterns, the multiple recording layers and the stored label data file.

Hirotsune et al. discloses an optical disk having a single or multiple recording layers having phase-change heat-sensitive material on which symbols or letters are recorded, the optical disk being configured to have a ROM region (1910) containing pre-recorded information of the symbols and letters to be written onto the Ram region (1920). Hirotsune et al. further teaches the thermally sensitive and phase-change layer

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having different color tones (col. 10, lines 52-67), the symbols or letters being formed as radial line patterns as well as concentric rings (patterns of crystalline regions forming visible writing portions and amorphous regions forming non-writing portions of the letters, the crystalline regions being aligned both radially and in concentric rings as shown in Fig. 14).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a multi-layered optical disk with pre-recorded information for the label in Heemskerk et al. device because Hirotsune et al. teaches this to be known in the art to record symbols and letters onto multiple layered optical disk.

Allowable Subject Matter

6. Claims 31-32, 34 and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: the primary reason for the indication of the allowability of claim 31 is the inclusion therein, in combination as currently claimed, of the limitation that "the pre-recorded data describes pattern of colors", which is not found taught or fairly suggested by the prior art made of record considered alone or in combination.

The primary reason for the indication of the allowability of claim 32 is the inclusion therein, in combination as currently claimed, of the limitation that "the pre-

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recorded data includes grey scale information”, which is not found taught or fairly suggested by the prior art made of record considered alone or in combination.

The primary reason for the indication of the allowability of claim 34 is the inclusion therein, in combination as currently claimed, of the limitation that “the pre-recorded data includes licensing information”, which is not found taught or fairly suggested by the prior art made of record considered alone or in combination.

The primary reason for the indication of the allowability of claim 37 is the inclusion therein, in combination as currently claimed, of the limitation that “the thermally sensitive layer includes a test printing area”, which is not found taught or fairly suggested by the prior art made of record considered alone or in combination.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM
PRIMARY EXAMINER

March 19, 2004